

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000055058	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/012515	International filing date (<i>day/month/year</i>) 05.11.2004	Priority date (<i>day/month/year</i>) 07.11.2003
International Patent Classification (IPC) or national classification and IPC C08F6/16, C08J3/16		
Applicant BASF Aktiengesellschaft		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-16 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 1-5 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-5</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-5</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-5</u>	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1) . Prior art			
<p>This report makes reference to the following documents:</p>			
<p>D1: US-4340702A, 1982-07-20</p>			
<p>D2: EP-0939100A, 1999-09-01</p>			
<p>D3: US-4246309A, 1981-01-20</p>			
<p>D4: DE-2214410A, 1973-10-04</p>			
<p>Document D1 discloses (the references between parentheses refer to that document) the ultrafiltration of a vinyl resin latex (claim 1) and the production of a powder by spray drying (column 6, lines 45-55). The portion of emulsifier in the filtrate is reduced (example 1, column 8, lines 2 and 34-37), although in concentrated latex the portion of emulsifier may be increased.</p>			
<p>Document D2 discloses treatment of an aqueous solution of a water-soluble, vinyl phosphonic acid-based polymer by membrane filtration</p>			

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	<p>(claims 1 and 5) and spray drying (examples 1 and 2). The result is a substantially pure polymer.</p> <p>Document D3 describes a binding agent that is based on an aqueous polymer dispersion and has a reduced content of water-soluble compounds as a result of ultrafiltration. Spray drying is not mentioned.</p> <p>Document D4 mentions spray drying of an aqueous polymer dispersion in the presence of an inorganic anti-caking agent. Ultrafiltration is not mentioned.</p> <p>2). PCT Article 33(1) and (2) - novelty</p> <p>These differences establish novelty in independent claim 1. Dependent claims 2 to 5 contain additional features and are likewise novel (PCT Article 33(1 and (2))).</p> <p>3). PCT Article 33(1) and (3) - inventive step</p> <p>The application concerns a method for producing polymer powders from aqueous polymer dispersions, the portion of water-soluble components relative to the polymer being less in the obtained polymer powders than in the initial aqueous polymer dispersions.</p> <p>This is achieved by a membrane filtration step,</p>

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	<p>which reduces the portion of water-soluble components relative to the polymer in the initial aqueous polymer dispersions, the aqueous polymer dispersions thus obtained being subjected to a spray drying step.</p> <p>The closest prior art, D1, discloses a method, according to which an aqueous polymer dispersion is subjected to an ultrafiltration step in order to reduce the proportion of water, thereby reducing the energy required for the spray drying for removing the water.</p> <p>It can be calculated that the emulsifier content would be enriched in this way. The method as per D1 therefore has the opposite technical effect to the method as per claim 1.</p> <p>The method as per D2 uses a vinyl phosphonic acid homo- or copolymer solution instead of a vinyl latex. It is highly improbable that a person skilled in the art would use the teaching from document D2, which lies in the technical field of regenerating used baths for treating metal, to produce polymer powder from an aqueous polymer dispersion.</p> <p>The subject matter of claim 1 therefore also involves an inventive step (PCT Article 33(3)) and the requirements of PCT Article 33(1) are satisfied.</p>